

Work Order ID 113358

February-13-14 3:17:00 PM

113358

Page 1

Item ID: D3537-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Wearpad

Start Date: 19/02/2014 Start Qty: 40.00

40

Cust Item ID:

Required Date: 19/02/2014 Req'd Qty: 40.00

40

Customer:

Reference:

Approvals: Process Plan: DA Date: 14-02-13 Tooling:

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

Draw Nbr

Revision Nbr

D3537

Rev C

100

0.00

100

FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg D3537 Dwg Rev: _____ Prog Rev: _____

ISSUE PO P023011
POSSIBLE SUPPLIER: LOEBSACK WATERJET

DAS
27
9-89

14/4/17

mg 2/16/14

105

0.00

105

Small Fab

Memo

0.00

Small Fab

DEBURR A/R

N
A

40

110

Form as per dwg

0.00

110

Brake NC

Memo

0.00

Brake NC

-1 Form as per Dwg D3537 on CNC Brake using Jigs DT 8261 and DT 8326.2
Identify as D3537-1

DAS
30
9-89

40

14/04/22

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

| | | | | | | | | | | | | | | | | | | |
|--|--|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____ Part No. _____ NCR No. _____ | DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/> | AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | |
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| Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | | | | | | | | | | | | | | | | |

| Root Cause | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Design | | | | | | | | | |
| Doc/Data | | | | | | | | | |
| Equip/Tooling | | | | | | | | | |
| Handling/Pre | | | | | | | | | |
| Material | | | | | | | | | |
| Operator | | | | | | | | | |
| Offset/Setup | | | | | | | | | |
| Process | | | | | | | | | |
| Supplier | | | | | | | | | |
| Training | | | | | | | | | |
| Transport | | | | | | | | | |
| Unapproved | | | | | | | | | |

FAULT CATEGORY

| | | | |
|--|--|---|--|
| Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube | General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other |
|--|--|---|--|

Work Order ID 113358

February-13-14 3:17:00 PM

113358

Page 2

Item ID: D3537-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Wearpad

Stop *NS2*

Start Date: 19/02/2014 Start Qty: 40.00

40

Cust Item ID:

Required Date: 19/02/2014 Req'd Qty: 40.00

40

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

112

0.00

112

Large Fab

Memo

0.00

Large Fab

Qty: Description

Batch A/R

2059B hardcoat

M23985, M28765 1- Weld as per Dwg D3537 using Jig DT 82102- Remove any weld that penetrated through Wearpad if necessary.

40

14-05-14

JPL

114

QC10- Inspect visual per QSI004- ground welds

0.00

114

QC

Memo

0.00

Quality Control

40

14-05-15

DAS
9
9-89

116

QC5- Inspect part completeness to step on W/O

0.00

116

QC

Memo

0.00

Quality Control

50

14-05-15

DAS
9
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

| | | | | | | | | | | | | | | | | | | |
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| Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | | | | | | | |
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| Root Cause | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Design | | | | | | | | | |
| Doc/Data | | | | | | | | | |
| Equip/Tooling | | | | | | | | | |
| Handling/Pre | | | | | | | | | |
| Material | | | | | | | | | |
| Operator | | | | | | | | | |
| Offset/Setup | | | | | | | | | |
| Process | | | | | | | | | |
| Supplier | | | | | | | | | |
| Training | | | | | | | | | |
| Transport | | | | | | | | | |
| Unapproved | | | | | | | | | |

FAULT CATEGORY

| | | |
|--|--|---|
| Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube | General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence |
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| | | <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other |

February-13-14 3:17:00 PM

Page 3

Reference:

Stop ***NR2***

0.00

4/0 of 14-5-16

40

14/3/14 (90)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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| Root Cause | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Design | | | | | | | | | |
| Doc/Data | | | | | | | | | |
| Equip/Tooling | | | | | | | | | |
| Handling/Pre | | | | | | | | | |
| Material | | | | | | | | | |
| Operator | | | | | | | | | |
| Offset/Setup | | | | | | | | | |
| Process | | | | | | | | | |
| Supplier | | | | | | | | | |
| Training | | | | | | | | | |
| Transport | | | | | | | | | |
| Unapproved | | | | | | | | | |

FAULT CATEGORY

| | | | |
|--|--|---|--|
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|--|--|---|--|

Work Order ID 113358

February-13-14 3:17:00 PM

113358

Page 4

Item ID: D3537-1

Revision ID:

Item Name: Wearpad

Start Date: 19/02/2014 Start Qty: 40.00

Required Date: 19/02/2014 Req'd Qty: 40.00

Reference:

Accept

N900040100

Setup Start ***NS1***

Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 124 | QC6- Inspect dimensions to drawing | 0.00 | | | | 40 | | | |
| *124* | | | | | | | | | |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |
| 126 | Identify as per dwg & Stock Location: <u>FP-001</u> | 0.00 | | | | | | | |
| *126* | | | | | | | | | |
| Packaging | Memo | 0.00 | | | | | | | |
| Packaging | | | | | | | | | |
| 200 | QC21- Final Inspection - Work Order Release | 0.00 | | | | | | | |
| *200* | | | | | | | | | |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

x40 d of 14/05/20

14/5/20

MF 14-5-20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

| | | | | | | | | | | | | | | | | | | |
|--|--|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
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| Root Cause | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Design | | | | | | | | | |
| Doc/Data | | | | | | | | | |
| Equip/Tooling | | | | | | | | | |
| Handling/Pre | | | | | | | | | |
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| Operator | | | | | | | | | |
| Offset/Setup | | | | | | | | | |
| Process | | | | | | | | | |
| Supplier | | | | | | | | | |
| Training | | | | | | | | | |
| Transport | | | | | | | | | |
| Unapproved | | | | | | | | | |

FAULT CATEGORY

| | | | |
|--|--|---|---|
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|--|--|---|---|

Picklist Print

February-13-14 3:17:06 PM

Page 1

Work Order ID: 113358

113358

Parent Item: D3537-1

D3537-1

Parent Item Name: Wearpad

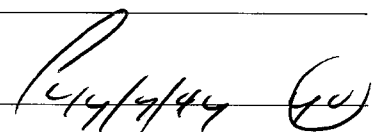
Start Date: 19/02/2014

Required Date: 19/02/2014

Start Qty: 40.00

Required Qty: 40.00

Comments: IPP Rev:A New Issue 07-02-14 JLM

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|--|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---|----------------|--------|
| D3537-1P *D3537-1P* Wearpad | | Purchased | | No | | | Each | 0.0000 | | 40 | | | |
| | | | | | | | | | | ** |  | | |

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

| | | | | | | | | | | | | | | | | | | |
|--|--|---|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--|----------------------------------|--|------------------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____ Part No. _____ NCR No. _____ | DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/> | AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | |
| Skid-tube <input type="checkbox"/> | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | | | | | | | | | | | | | | | |
| Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> | | | | | | | | | | | | | | | | |

| Root Cause | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|---|-------------------|--------------------|-------------|--------------|--------------|
| Design | | | | | | | | | |
| Doc/Data | | | | | | | | | |
| Equip/Tooling | | | | | | | | | |
| Handling/Pre | | | | | | | | | |
| Material | | | | | | | | | |
| Operator | | | | | | | | | |
| Offset/Setup | | | | | | | | | |
| Process | | | | | | | | | |
| Supplier | | | | | | | | | |
| Training | | | | | | | | | |
| Transport | | | | | | | | | |
| Unapproved | | | | | | | | | |

FAULT CATEGORY

| | | | |
|--|--|---|---|
| Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube | General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other _____ _____ _____ |
|--|--|---|---|

| | | | |
|------------------------------|--|--------------|---------|
| DART AEROSPACE LTD | | Work Order: | 113358 |
| Description: Wearpad | | Part Number: | D3537-1 |
| Inspection Dwg: D3537 Rev: C | | Page 1 of 1 | |

FIRST ARTICLE INSPECTION CHECKLIST

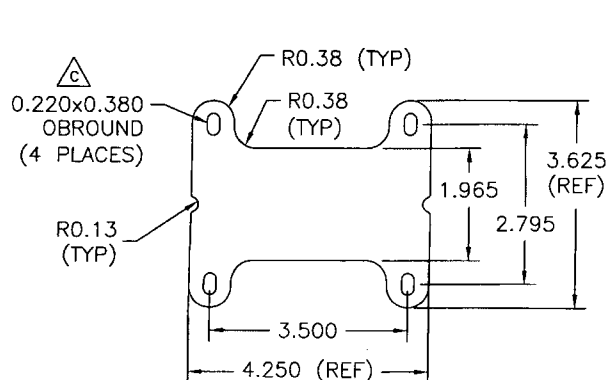
☒ First Article ☐ Prototype

| Drawing Dimension | Tolerance | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|-------------------|-----------|------------------|--------|--------|----------------------|----------|
| 4.250 | +/-0.010 | 4.283 | ✓ | | √ 5km-05 | |
| 3.500 | +/-0.010 | 3.49 | ✓ | | | |
| 1.965 | +/-0.010 | 1.95 | ✓ | | | |
| 2.795 | +/-0.010 | 2.8 | ✓ | | | |
| 3.625 | +/-0.010 | 3.60 | ✓ | | | |
| 0.220 x 0.380 | +/-0.010 | 0.232 x 0.389 | ✓ | | | |
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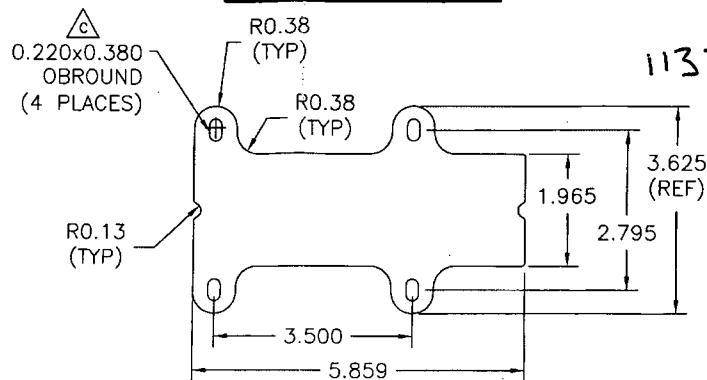
| | | |
|-----------------|-----------------------------------|-------------------------|
| Measured by: mm | Audited by: ²⁷ 14/9/17 | Prototype Approval: N/A |
| Date: 14/04/16 | Date: 14/9/17 | Date: N/A |

| Rev | Date | Change | Revised by | Approved |
|-----|----------|-----------------------------------|------------|----------|
| A | 07.03.21 | New Issue | KJ/JLM | |
| B | 07.04.27 | Dimensions revised per Dwg Rev. B | KJ/JLM | |
| C | 07.05.28 | Dimensions revised per Dwg Rev. C | KJ/JLM | |

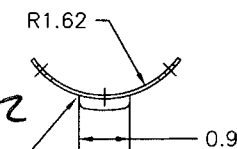
D3537-1F FLAT PATTERN



D3537-3F FLAT PATTERN



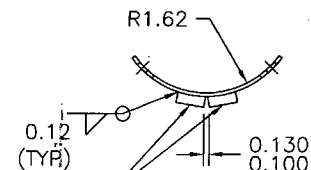
SECTION A-A



APPLY 2 LAYERS OF 2059B HARDCOAT WELDS TO WITHIN 0.25 OF WEARPAD ENDS 0.188 TO 0.250 THICK

OK 9/11/15

SECTION B-B

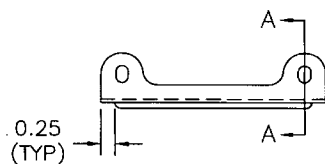


D2941-300 REMOVE POWDER COAT FROM THESE SURFACES

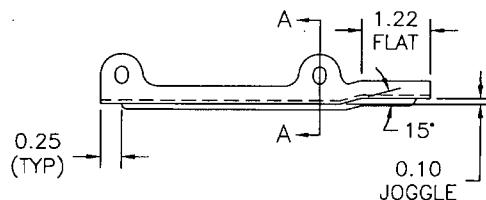
UNDER REVIEW
11/12/15
Change

RELEASED
07-05-08 AD
per ECU
962

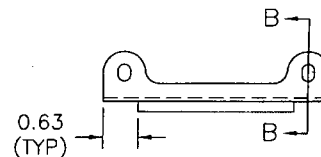
D3537-1 LONGITUDINAL BEND (MADE FROM D3537-1F)



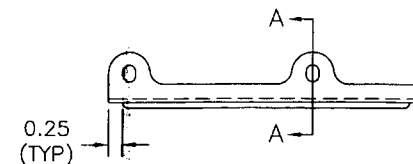
D3537-3 LONGITUDINAL BEND (MADE FROM D3537-3F)



D3537-5 LONGITUDINAL BEND (MADE FROM D3537-1F)



D3537-7 LONGITUDINAL BEND (MADE FROM D3537-3F)



D3537-1/-3/-5/-7 WEARPAD NOTES

- 1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 16 GAUGE (0.063 THICK)
(REF DART SPEC. M304S16GA)
- 2) BREAK ALL SHARP CORNERS 0.063 MAX
- 3) WELD PER QSI 004
- 4) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER QSI 005 4.3
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

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| | | |
|---------|----------|----------------------------------|
| C | 07.04.13 | WIDEN TAB TO 0.380, WELD PATTERN |
| B | 07.03.20 | ADD AMS 5513 AND AMS 5524 |
| A | 06.11.06 | NEW ISSUE |
| DESIGN | CB | DRAWN BY: PH |
| CHECKED | # | APPROVED: # |
| DATE | 07.04.13 | DRAWING NO. D3537 |
| | | TITLE WEARPAD |
| | | REV. C SHEET 1 OF 1 SCALE 1:2 |

DART DART AEROSPACE USA, INC.
PORT HADLOCK, WA



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO23011**

Purchase Order Date 2/14/2014

PO Print Date 2/14/2014

Page Number 8 of 9

Order From :

VC-LWC001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

LOEBSACK WATERJET CANADA LTD.
55 NORTHFIELD DR. E.
P.O.BOX 339

WATERLOO, ONTARIO N2K 3T6

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via:

FedEx PI collect

Ship Acct:

Buyer

Michael Gregoire

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

| | | | | | | |
|--------------------|---|-------------|-----------|-------|--------|-----------------|
| 21 | D3065-7P | Step Spacer | 3/28/2014 | 20.00 | \$7.00 | \$140.00 |
| | | | Yes | Each | | |
| | | | 3/28/2014 | | | |
| | Manufacture as per drawing D3065 rev.b B113036 | | | | | |
| | D3065-7P | | 3/28/2014 | 40.00 | \$7.00 | \$280.00 |
| | | | | Each | | |
| | | | 3/28/2014 | | | |
| | Manufacture as per drawing D3065 rev.b B111400 | | | | | |
| Line Total: | | | | | | \$420.00 |
| 22 | D3537-1P | Wearpad | 3/28/2014 | 40.00 | \$4.30 | \$172.00 |
| | | | Yes | Each | | |
| | | | 3/28/2014 | | | |
| | Manufacture as per drawing D3537 rev.c B113358 | | | | | |
| | D3537-1P | | 3/28/2014 | 40.00 | \$4.30 | \$172.00 |
| | | | | Each | | |
| | | | 3/28/2014 | | | |
| | Manufacture as per drawing D3537 rev.c B113229 | | | | | |

PO Instructions: PROCUREMENT QUALITY CLAUSES

A005 RIGHT OF ENTRY

A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A042 DART NOTIFICATION BY SUPPLIER

Note:

Certificate of Compliance

Sold To: DART Aerospace

Purchase Order Nu ID PO23011

| Item | Quantity | Part Number | Revision | Description | Mtl. / Thk. | HT Number |
|--------|----------|-------------|----------|-------------|-------------------|-----------|
| 18(4) | 60 | D3065-1 | b | STEP SPACER | 2024-T3 / 0.040" | 663172A5 |
| 19(5) | 100 | D3065-3 | b | STEP SPACER | 2024-T3 / 0.040" | 663172A5 |
| 21(7) | 60 | D3065-7 | b | STEP SPACER | 2024-T3 / 0.040" | 663172A5 |
| 20(6) | 110 | D3065-5 | b | STEP LEG | 5052-H32 / 0.080" | 3C5291 |
| 9(8) | 20 | D4093-1 | d | BRACKET | 6061-T6 / 0.750" | 37797032 |
| 10(9) | 10 | D4093-3 | d | BRACKET | 6061-T6 / 0.750" | 37797032 |
| 8(2) | 20 | D3319-1 | c | WEARPLATE | CRS 18GA / 0.048 | 3683T3-51 |
| 7(1) | 20 | D3319-3 | c | WEARPLATE | CRS 18GA / 0.048 | 3683T3-51 |
| 22(3) | 120 | D3537-1F | c | WEARPAD | 304 SS / 0.063" | A1303988 |
| 11(10) | 40 | D3405-1F | b | GHW BRACKET | 304 SS / 0.120" | 350420 |

This is to certify that the whole of the supplies detailed hereon has been inspected, tested, packed, and unless otherwise stated, conform in all respects with the requirements of the contract or order.

Name: Derek Loebsack

Title: President

Sign:



Dated:

07-14-04

DAS
27
9,89

M/V/H

THYSSENKRUPP MATERIALS NA

J.M. WOODTURNING LTD

ALUMINUM PLATE 6061-T651
.750" THICK X 48.5000" X 96.5000"
PART NO.

PO/Rel FRED

We certify that this is a true copy of the report
furnished by the producer of the metal, or data
resulting from tests made in approved labs.

Signed by: _____

Certificate of Mill Test Results

BL PEC-851084-001

19Nov13

Pg 1/1

TEST CERTIFICATE



Certificate No: 1209182662

Hulamint. L. m. Reg. No. 15401233/01 UAI Reg. No. 4181149614
HEAD OFFICE: Neue Hüttenstr. 64, Pilsen, 3201, P.O. Box 14, Pilsen, 3201, Czech Republic
Telephone: +27 30 354 5811 Telex: +27 31 94 6335

| | | |
|---|-----------------------------------|--|
| BUYER: TA CHEN INTERNATIONAL INC 5855 ODISPO AVE LONG BEACH CA 90805 | Hulamint. Lot No: HL018523 | Product: PLATE HEAT TREATED L18523, 6061-T651 0.75" x 48.5" x 96.5" |
| | Lot No: 17/09/032CB | Dimension: 0.75" x 48.5" x 96.5" |
| | P/Lot No: 2/1161413 | Alloy - Temper: 6061 - T651 |
| | Release No: REC08058 | |
| | Cost Order No: N03100-S | Certificate No: 1209182662 |
| | HULAMIN Order No: 181742E | Cost Ref/Part No: |
| | Item Part: 1/1 | Combined P/Lot No: R'21842 |

Case No: PFV671

MECHANICAL TEST RESULTS

| Lot No. | Cast No. | Metal ID | Alloy | Spec No. | Mechanical Properties | | | | | | | |
|-------------|----------|----------|-------|----------|-----------------------|-----------|--------------------|-----------|-----------|-----------------------|-----------|-----------------------|
| | | | | | Yield Strength (Ksi) | UTS (Ksi) | Elongation A50 (%) | Enl (Ksi) | Test Date | Gauge Length (Inches) | Band Test | Actual Gauge (Inches) |
| Spec | | | | Min | 35.1 | 42.0 | 9 | | | | | 0.75 |
| | | | | Max | | | | | | | | 0.781 |
| 17/09/032CB | VABT | 37797032 | 6061 | 1 | 41.6 | 46.7 | 15 | | 07/09/12 | 2 | | 0.765 |
| | | | | 2 | 41.6 | 46.7 | 15 | | 07/09/12 | 2 | | 0.765 |

CHEMICAL COMPOSITION

| | Cast No. | Alloy | Si (%) | Fe (%) | Cu (%) | Mn (%) | Mg (%) | Cr (%) | Zn (%) | Ti (%) | Each (%) | Total (%) | Al (%) |
|-----|----------|-------|--------|--------|--------|--------|--------|--------|--------|--------|----------|-----------|--------|
| Min | | | 0.40 | | 0.15 | | 0.8 | 0.04 | | | | | |
| Max | | | 0.8 | 0.7 | 0.40 | 0.15 | 1.2 | 0.35 | 0.25 | 0.15 | 0.05 | 0.15 | |
| | VABT | 6061 | 0.69 | 0.44 | 0.28 | 0.11 | 1.01 | 0.21 | 0.01 | 0.012 | | | 97.20 |

CONFORMS TO: ASME SB-209 ASTM B209 TO AMS 4077N AMS 404-350-11, DD, 1997

For purposes of determining conformance with these specifications, an observed value or a calculated value shall be rounded "to the nearest unit" in the last right-hand digit used in expressing the specification limit, in accordance with the rounding method of ASTM Practice B29, for Using Significant Digits in Test Data to Determine Conformance with Specifications.

WE HEREBY CERTIFY, THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF THE ORDER CONTRACT. THE INSPECTION RESULTS INDICATED IN THE CHEMICAL COMPOSITION HAVE BEEN OBTAINED FROM CAST ANALYSIS.

Dr. A. Fiedor (HEAD OF CHEMICAL TESTING)

Ver 1.0.1

V. Markov (HEAD OF PHYSICAL TESTING)

MILL TEST REPORT

TA CHEN INTERNATIONAL, INC.

Customer: COPCON PO#PEC-239613 SO#JMR6430
Item: 75048966061651 Bundle: PFV671 Head: 37797032

THIS MTR contains 1 page (Page# 1)
MTR#HLCLR181764_P1

KAISER ALUMINUM FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

Kaiser Aluminum
Trentwood Works
Spokane, WA 99215-5108
(800) 367-2586

| | | | | | |
|---|---------------------------|--------------------------|--|---------------------------------------|-----------------------|
| CUSTOMER PO NUMBER: 5400197766-20 | | WORK PACKAGE: | CUSTOMER PART NUMBER: ALFLR01581 | PRODUCT DESCRIPTION: HT Flat Sheet | |
| KAISER ORDER NUMBER: 1160889 | LINE ITEM: 2 | SHIP DATE: 11/14/2013 | ALLOY: 2024 | CLAD: BARE | TEMPER: T3 |
| WEIGHT SHIPPED: 3293 LB | QUANTITY: 117 PCS EST. | B/L NUMBER: 2044959 | GAUGE: 0.0400 IN | WIDTH: 48.000 IN | LENGTH: 144.000 IN |
| SHIP TO: COPPER & BRASS SALES 404 CENTURA COURT SPARTANBURG, SC 29303 US | | | SOLD TO: COPPER & BRASS SALES ATTN: ACCOUNTS PAYABLE P.O. Box 5116 SOUTHFIELD, MI 48086 US | | |

MHU 1730227: LOT 663172A5: 117 pieces

Certified Specifications

AMS 4037/RevP AMS-QQ-A-250/4/RevA ASTM B 209/Rev10 CMMF 019/RevD CMMF 025/RevU

Test Code: 1504 Test Results:

LOT: 663172A5 CAST: 641 DROP: 27 INGOT: 3

Melted in USA
(ASTM E8/B557)
(EN 2002-1)

| | | | | |
|-----------------|-------------------|----------------------------|----------------------------|--------------|
| Tensile: Temper | Dir/#Tests | Ultimate KSI (MPA) | Yield KSI (MPA) | Elongation % |
| T3 | LT / 02 (Min:Max) | 68.1 : 68.2 (470 : 470) | 46.0 : 46.1 (317 : 318) | 17.1 : 17.8 |

(ASTM E1251)

| | | | | | | | | | | | |
|------------|------|------|-----|------|-----|------|------|------|------|------|----------|
| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
| Actual | 0.09 | 0.23 | 4.7 | 0.57 | 1.3 | 0.01 | 0.16 | 0.02 | 0.01 | 0.00 | TOT 0.03 |

| | | | | | | | | | | | |
|------------|----------|------|-----|------|-----|------|------|------|------|------|----------|
| Chemistry: | SI | FE | CU | MN | MG | CR | ZN | TI | V | ZR | OTHER |
| 2024 | MIN 0.00 | 0.00 | 3.8 | 0.30 | 1.2 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | MAX 0.05 |
| | MAX 0.50 | 0.50 | 4.9 | 0.9 | 1.8 | 0.10 | 0.25 | 0.15 | 0.05 | 0.05 | TOT 0.15 |

Aluminum Remainder

Plant Serial: 4315340

Kaiser Order Number: 1160889

Line Item: 2

Page 1 of 2

From: ThyssenKrupp Materials NA

Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2402984673

CstAr

CstOr 256039

Wgt.: 55.296 LB

Date 02/20/2014

John R. Zumbach

KAISER
ALUMINUM
FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

Kaiser Aluminum
Trentwood Works
Spokane, WA 99215-5108
(800) 367-2586

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC (Kaiser) hereby certifies that metal shipped under this order was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 232.225 for domestic content. This material has been inspected, tested and found in conformance with the requirements of the applicable specifications as indicated herein. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. All metal which is solution heat treated complies with AMS 2772. Any warranty is limited to that shown on Kaiser's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of Kaiser Aluminum Fabricated Products, LLC laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law. ISO-9001:2000 certified.

JAMES HEMENWAY, LABORATORIES SUPERVISOR

James Hemenway

Plant Serial: 4315340
Kaiser Order Number: 1160889
Line Item: 2

Page 2 of 2

From: ThyssenKrupp Materials NA
Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2402984673
CstAr CstOr 256039
Wgt.: 55.296 LB Date 02/20/2014

John R. Zumbach

FORM: 1006

WORKORDER:

2402984673

COPPER AND BRASS SALES

MATERIAL TYPE

ALUMINIUM ALLOYS

PRODUCT DESIGNATION

2014 2024 2224 2324 7050 7075 7150 7175 7475 ALUMEC 89 ALUMEC 99 QC-7

"WARNING"

SMALL CHIPS, FINE TURNINGS AND DUST MAY IGNITE READILY. EXPLOSION POTENTIAL MAY BE PRESENT WHEN: DUST OR FINES ARE DISPERSED IN THE AIR; FINE, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH CERTAIN METAL OXIDES; OR, CHIPS, FINES, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH WATER OR MOISTURE. KEEP AWAY FROM IGNITION SOURCE. USE EXPLOSION-PROOF VENTILATION. KEEP MATERIAL DRY.

THIS PRODUCT CONTAINS BERYLLIUM AND COPPER. INHALING BERYLLIUM DUST OR FUMES MAY CAUSE CHRONIC BERYLLIUM DISEASE (CBD), A SERIOUS CHRONIC LUNG DISEASE IN SOME INDIVIDUALS. BERYLLIUM IS A CANCER HAZARD; OVER TIME CBD AND CANCER CAN BE FATAL. TARGET ORGAN IS PRIMARILY THE LUNG. INHALING LARGE AMOUNTS OF COPPER, MAGNESIUM OXIDE, MANGANESE OXIDE, AND ZINC OXIDE FUMES OR DUST MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS. CHRONIC OVEREXPOSURE TO COPPER MAY CAUSE THICKENING OF THE SKIN, AND SKIN, TEETH, AND HAIR DISCOLORATION. CHRONIC OVEREXPOSURE TO MANGANESE DUST CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE, SCARRING OF THE LUNGS AND REPRODUCTIVE HARM IN MALES. TARGET ORGAN IS PRIMARILY THE LUNG, BUT REPEATED HIGH EXPOSURE CAN ALSO AFFECT THE LIVER. CHRONIC OVEREXPOSURE TO IRON OXIDE DUST/FUME MAY CAUSE LUNG SIDEROSIS. CHRONIC OVEREXPOSURE TO SILICON DUST CAN CAUSE CHRONIC BRONCHITIS. OVEREXPOSURE TO AMORPHOUS SILICA CAN CAUSE DRYING OF THE MUCOUS MEMBRANES OF THE EYES, NOSE, AND THROAT.

THIS PRODUCT ALSO CONTAINS NICKEL AND CHROMIUM COMPOUNDS. INHALATION OF NICKEL DUST OR FUME MAY RESULT IN INFLAMMATION OF THE RESPIRATORY TRACT AND CAUSE NASAL AND/OR LUNG CANCER. NICKEL HAS BEEN IDENTIFIED AS A POTENTIAL HUMAN CARCINOGEN. EXPOSURE TO CHROMIUM DUST OR FUMES MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE. UNDER HIGH TEMPERATURES, HEXAVALENT CHROMIUM MAY BE PRODUCED, IF IN THE INSOLUBLE FORM, IT IS A CONFIRMED HUMAN CARCINOGEN. (CALIFORNIA PROPOSITION 65).

IF COATED WITH OIL, MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT. WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS.

READ THE ALUMINIUM/ALUMINIUM ALLOYS MATERIAL SAFETY DATA SHEET (MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL.

* If processing or recycling produces particulate, use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding, grinding, abrasive sawing, sanding and polishing. Any activity which abrades the surface of this material can generate airborne particulate. Use appropriate NIOSH approved respiratory protection (P95; P100 for lead with, quantitative fit testing required) if exposures exceed the permissible limits.

* The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.

* Aluminum, in solid form and as contained in finished products presents no special health risk.

* Sold for manufacturing purposes only. This product can be recycled; contact your sales representative.

For additional information, call or write to Copper and Brass Sales, 22355 West Eleven Mile Road, Southfield, MI 48033, telephone 248-233-5600, or visit our web site @ www.copperandbrass.com.

ALUMINUM LABEL NO. 300-1056

ISSUED 10/01/2008



ADITYA BIRLA HINDALCO INDUSTRIES LIMITED

Deewan Deep Building, 1 Pafulla Chandra Sen Sarani,
Kolkata-700071, India. Tel: +91-33-22402210
Fax: +91-33-22884808
Regd. Office: Century Bhawan, Dr. Annie Besant Road, Worli,
Mumbai - 400 028, INDIA.

Page 1 of 2

Date: 20-SEP-13

NAME OF THE PARTY: RYERSON CANADA INC., 161 THE WEST HALL, TORONTO, ONTARIO M5C4V6, CANADA.
PRODUCT: ALUMINIUM SHEET
QTY (MT): 20.923
LC/NO. & DATE: 64687167 Dt. 20.08.2013
INVOICE NO: HSD/R/2014/72

COPY

THE TEST RESULTS OF THE SAMPLES DRAWN AND TESTED IN OUR LABORATORY ARE AS FOLLOWS :

QUALITY CERTIFICATE

| SERIAL | Package No. | Alloy Temp. | Net Wt (MT) | Size (mm) | Coil No. | Cust No./Sent No. |
|--------|-------------|-------------|-------------|--------------------|----------------|-------------------|
| 1 | 717380184 | AA5052, H32 | 1.487 | 3048 x 1219 x 2.29 | H13RASH0805002 | 717380184 |
| 2 | 2D019280184 | AA5052, H32 | 1.508 | 3048 x 1524 x 2.54 | H13RASH0819010 | 2D019280184 |
| 3 | 3C53084 | AA5052, H31 | 1.487 | 2438 x 3219 x 2.03 | H13RASH0805017 | 3C53084 |
| 4 | 2D019280185 | AA5052, H32 | 1.503 | 3048 x 1524 x 2.54 | H13RASH0819010 | 2D019280185 |
| 5 | 3C53087 | AA5052, H32 | 1.487 | 2438 x 3219 x 2.03 | H13RASH0805017 | 3C53087 |
| 6 | 717380185 | AA5052, H32 | 1.511 | 3048 x 1219 x 2.29 | H13RASH0805002 | 717380185 |
| 7 | 717290384 | AA5052, H32 | 1.488 | 3048 x 1219 x 2.29 | H13RASH0805001 | 717290384 |
| 8 | 717290382 | AA5052, H32 | 1.485 | 3048 x 1219 x 2.29 | H13RASH0805001 | 717290382 |
| 9 | 2D0193A0182 | AA5052, H32 | 1.47 | 3048 x 1524 x 2.54 | H13RASH0819011 | 2D0193A0182 |
| 10 | 717380182 | AA5052, H32 | 1.487 | 3048 x 1219 x 2.29 | H13RASH0805002 | 717380182 |

CHEMICAL COMPOSITION (%)

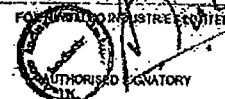
| Cust No. | Si | Fe | Mn | Mg | Cu | Zn | Cr | Al | Ni | Pb | V | Sr | Others | Rem. Alum. |
|---------------|------|------|------|-------|------|----|----|------|----|----|---|------|--------|------------|
| 1 717380184 | .011 | .216 | .006 | 2.345 | .001 | 0 | 0 | .006 | 0 | 0 | 0 | .001 | 0 | 97.123 |
| 2 2D019280184 | .133 | .205 | .041 | 2.413 | .01 | 0 | 0 | .02 | 0 | 0 | 0 | .005 | 0 | 96.887 |
| 3 3C53084 | .2 | .49 | .137 | 2.6 | .009 | 0 | 0 | .013 | 0 | 0 | 0 | 0 | 0 | 96.397 |
| 4 2D019280185 | .133 | .205 | .041 | 2.413 | .01 | 0 | 0 | .02 | 0 | 0 | 0 | .005 | 0 | 96.297 |
| 5 3C53087 | .2 | .49 | .137 | 2.6 | .009 | 0 | 0 | .013 | 0 | 0 | 0 | 0 | 0 | 96.297 |
| 6 717380185 | .093 | .216 | .006 | 2.345 | .001 | 0 | 0 | .006 | 0 | 0 | 0 | .001 | 0 | 97.123 |
| 7 717290384 | .105 | .263 | .003 | 2.326 | .001 | 0 | 0 | .005 | 0 | 0 | 0 | .001 | 0 | 96.873 |
| 8 717290382 | .105 | .263 | .003 | 2.326 | .001 | 0 | 0 | .005 | 0 | 0 | 0 | .001 | 0 | 96.873 |
| 9 2D0193A0182 | .124 | .201 | .054 | 2.387 | .016 | 0 | 0 | .02 | 0 | 0 | 0 | .005 | 0 | 96.88 |
| 10 717380182 | .093 | .216 | .006 | 2.345 | .001 | 0 | 0 | .006 | 0 | 0 | 0 | .001 | 0 | 97.123 |

MECHANICAL PROPERTIES

| Cust No. | UTS (kg/mm2) | TS (kg/mm2) | % Elongation | Bend Test |
|---------------|--------------|-------------|--------------|------------------|
| 1 717380184 | 24.3 | 0 | 11.2 | 0 T Satisfactory |
| 2 2D019280184 | 23.2 | 0 | 10.6 | 0 T Satisfactory |
| 3 3C53084 | 22.9 | 0 | 9.5 | 0 T Satisfactory |
| 4 2D019280185 | 23.2 | 0 | 10.6 | 0 T Satisfactory |
| 5 3C53087 | 22.9 | 0 | 9.5 | 0 T Satisfactory |
| 6 717380185 | 24.5 | 0 | 11.2 | 0 T Satisfactory |
| 7 717290384 | 23.4 | 0 | 10.6 | 0 T Satisfactory |
| 8 717290382 | 23.4 | 0 | 10.6 | 0 T Satisfactory |
| 9 2D0193A0182 | 22.6 | 0 | 11.6 | 0 T Satisfactory |
| 10 717380182 | 24.5 | 0 | 11.2 | 0 T Satisfactory |

OTHER TESTS

Remarks:- (1) RYERSON PO NO. 736570 (2) ISSUED BY THE MANUFACTURER.



ADITYA BIRLA HINDALCO INDUSTRIES LIMITED



Jeevan Deep Building, 1 Prafulla Chandra Sen Sarani,
Kolkata-700071, India. Tel: +91-33-22602110
Fax: +91-33-22604808
Regd. Office: Century Bhuban, Dr. Amle Bessat Road, Worli,
Mumbai - 400 028, INDIA.

Page 2 of 2

NAME OF THE PARTY : HYMERSON CANADA INC., 161 THE WEST HALL, TORONTO, ONTARIO M5C 4V8, CANADA.,
PRODUCT : ALUMINIUM SHEET.
QTY (MT) : 20.923
LC/PO. & DATE : 64687167 Dt. 20.08.2013
INVOICE NO : HNB/R/2014/72

COPY

QUALITY CERTIFICATE

| SRMO | Rollage No. | Alloy Temp. | Mat. No. (MT) | Size (mm) | Coil No. | Test No./Roll No. |
|--------|-------------|-------------|---------------|--------------------|---------------|-------------------|
| 11 | 3C53016 | AA5052, H32 | 1.486 | 2438 x 1219 x 2.03 | H13HSH0805017 | 3C53016 |
| 12 | 3C52981 | AA5052, H32 | 1.517 | 2438 x 1219 x 2.03 | H13HSH0805018 | 3C52981 |
| 13 | 2D019280182 | AA5052, H32 | 1.502 | 3048 x 1524 x 2.54 | H13HSH0819010 | 2D019280182 |
| 14 | 2D0193A0185 | AA5052, H32 | 1.505 | 3048 x 1524 x 2.54 | H13HSH0819011 | 2D0193A0185 |
| Total- | | | 20.923 | | | |

CHEMICAL COMPOSITION (%)

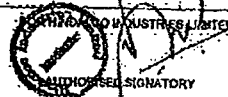
| Roll No. | Si | Fe | Mn | Mg | Cu | Zn | Cr | Ti | Al | Si | Pb | V | Sn | Bi | Others | Sam. Alud. |
|----------------|------|------|------|-------|------|----|----|------|----|----|-------|---|----|----|--------|------------|
| 11 3C53016 | .02 | .49 | .137 | 2.6 | .009 | 0 | 0 | .013 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 96.397 |
| 12 3C52981 | .02 | .49 | .137 | 2.6 | .009 | 0 | 0 | .013 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 96.397 |
| 13 2D019280182 | .133 | .285 | .041 | 2.413 | .01 | 0 | 0 | .02 | 0 | 0 | 0.005 | 0 | 0 | 0 | 0 | 96.887 |
| 14 2D0193A0185 | .134 | .301 | .056 | 2.357 | .016 | 0 | 0 | .02 | 0 | 0 | 0.005 | 0 | 0 | 0 | 0 | 96.88 |

MECHANICAL PROPERTIES

| Roll No. | UTS (Kg/mm2) | PS (Kg/mm2) | % Elongation | Read Test |
|----------------|--------------|-------------|--------------|------------------|
| 11 3C53016 | 22.9 | 0 | 9.5 | 0 T Satisfactory |
| 12 3C52981 | 24.4 | 0 | 10 | 0 T Satisfactory |
| 13 2D019280182 | 23.2 | 0 | 10.6 | 0 T Satisfactory |
| 14 2D0193A0185 | 22.6 | 0 | 11.8 | 0 T Satisfactory |

OTHER TESTS

Remarks:- (1) HYMERSON PO NO.736670 (2) ISSUED BY THE MANUFACTURER.





ESSAR STEEL ALGOMA INC., 105 West Street, Sault Ste. Marie, Ontario, Canada P6A 7B4

| | | |
|---|---|---|
| SO No., Item & Date.: 8017177 000020 2014/01/09 | Shipment No. & Date.: 1000083594 2014/01/10 | TC No., Date & Time : ESA-128192 2014/01/12 - 08:41:14 |
| Sold to Customer Name and Address : RYERSON INC FINANCIAL DRIVE 7525 BRAMPTON, Ontario, Canada L6Y 5P4 | Ship to Customer Name and Address: RYERSON INC FINANCIAL DRIVE 7525 BRAMPTON, Ontario, Canada L6Y 5P4 | Customer PO NO./Item: 744335 / 2 BOL NO.: 1000083594 Cust. Part No.: 7804-2405 Carrier : NATIONAL TRANSPORTATION - 1158A |
| Customer Specification : CR STEEL SHEET Carbon CQ / CS ASTM A1008 CS TY B (2012) Mark Number 7804-2405 Batch Annealed Top Semi Critical Surface Improved Shape Pickled Light Oiled Light Matte Finish Edge Sealant Required Std Thickness Tol | | |

Supplementary Instructions : Test Cert 1:905-792-1617

Insp T/R : Chemical Analysis

Cust Use : AUTO IMPROVED SHAPE & SURF

ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES.
THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGOMA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705) 945-4085 FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT.

MEETS EN 10204 3.1
ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ESSARSTEELALGOMA.COM

ALL HEATS FULLY KILLED.
HEATS INDICATED WITH (*) FINE GRAINED.
HEATS INDICATED WITH (+) MADE IN CANADA WITH DOMESTIC AND NORTH AMERICAN MATERIALS.

| Dimensions (T x W x L) | Batch No. | Heat No.-MS | Quantity | Pcs |
|------------------------|-----------|-------------|-----------|-----|
| 0.0440" x 48.000" | SAM9818B | 3683T3-51 | 21,740 LB | 1 |

*****CHEMICAL PROPERTIES*****

| Heat No. (wt%) | C | Mn | P | S | Si | Cr | Ni | Cu | Mo | Al | Nb | V | B | Ti | N |
|----------------|------|------|-------|-------|-------|------|------|------|------|-------|-------|-------|--------|-------|--------|
| 3683T3* | 0.04 | 0.26 | 0.003 | 0.007 | 0.020 | 0.01 | 0.01 | 0.01 | 0.00 | 0.035 | 0.000 | 0.000 | 0.0000 | 0.001 | 0.0033 |

K. UGHADPAGA

MANAGER METALLURGICAL SERVICES

****WARNING**** THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

Date: 2014/01/12 Time: 08:41:14 Page no: 1 of 1

THYSSENKRUPP MATERIALS NA

Certificate of Mill Test Results

PO/Ref:

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

Attn: RICK

BL PBC-000000-000

Pg 1/1

PART NO.

产品质量证明书 MATERIAL TEST CERTIFICATE

无锡宝昌金属制品有限公司
Wuxi Baichang Metal Products Co., Ltd

PAGE 2 OF 2

单号: EX13093010S
Order No.
货方: GLOBAL STAINLESS STEEL INC.
用方: GLOBAL STAINLESS STEEL INC.
ONSIGNEE

品名: STAINLESS STEEL SHEETS,
Commodity SLIT EDGE

标准: ASTM A240/A240M
Specification:

牌号: 304
Type
表面加工: 2B
Surface Finish
编号: EX1309301
Invoice No.
发行日期: 2013-10-26
Date

| ONSIGNEE | | Specification | | Surface finish | | | | | | | | | | | | | | | |
|-----------|---------------------|-----------------------|-------------------|--------------------|--------------|--------------------|--------------------------------------|---------------------------------|----------------|-----------------------------|--------------------|----------------------------------|-------|--------|--------|--------|--------|--------|--------|
| 序号 No. | 货物编号 Product No. | 产品尺寸 Product Size | | | 数量 Number | 重量 Weight Kg | 拉伸试验 Tensile Test | | | 表面 硬度 Hardness HRB | 炉批号 HEAT NO. | 化学成分 Chemical Composition (%) | | | | | | | |
| | | 厚度 Thickness MM | 宽度 Width MM | 长度 Length MM | | | 屈服强度 0.2% YS N/mm ² | 抗拉强度 TS N/mm ² | 延伸率 EL % | | | C | Si | Mn | P | S | Ni | Cr | N |
| | | | | | | | | | | | | | | | | | | | |
| 12 | 13102612 | 0.6096 | 1219.2 | 2438.4 | 118 | 1612 | 250 | 690 | 57 | 83 | A1303883 | 0.0400 | 0.390 | 1.1300 | 0.0350 | 0.0010 | 8.0200 | 18.120 | 0.0400 |
| 13 | 13102613 | 0.6096 | 1219.2 | 2438.4 | 118 | 1616 | 250 | 690 | 57 | 83 | A1303883 | 0.0400 | 0.390 | 1.1300 | 0.0350 | 0.0010 | 8.0200 | 18.120 | 0.0400 |
| 14 | 13102614 | 0.7620 | 1219.2 | 2438.4 | 88 | 1644 | 271 | 665 | 58 | 89.5 | A1303883 | 0.0400 | 0.390 | 1.1300 | 0.0350 | 0.0010 | 8.0200 | 18.120 | 0.0400 |
| 15 | 13102615 | 0.7620 | 1219.2 | 2438.4 | 87 | 1626 | 271 | 665 | 58 | 89.5 | A1303883 | 0.0400 | 0.390 | 1.1300 | 0.0350 | 0.0010 | 8.0200 | 18.120 | 0.0400 |
| 16 | 13102616 | 1.2192 | 1219.2 | 2438.4 | 54 | 1494 | 267 | 695 | 55 | 87 | A1303987 | 0.0400 | 0.550 | 1.1000 | 0.0330 | 0.0010 | 8.0200 | 18.160 | 0.0400 |
| 17 | 13102617 | 1.2192 | 1219.2 | 2438.4 | 50 | 1378 | 267 | 695 | 55 | 87 | A1303987 | 0.0400 | 0.550 | 1.1000 | 0.0330 | 0.0010 | 8.0200 | 18.160 | 0.0400 |
| 18 | 13102618 | 1.2192 | 1219.2 | 3048 | 42 | 1460 | 267 | 695 | 55 | 87 | A1303987 | 0.0400 | 0.550 | 1.1000 | 0.0330 | 0.0010 | 8.0200 | 18.160 | 0.0400 |
| 19 | 13102619 | 1.2192 | 1219.2 | 3048 | 45 | 1574 | 267 | 695 | 55 | 87 | A1303987 | 0.0400 | 0.550 | 1.1000 | 0.0330 | 0.0010 | 8.0200 | 18.160 | 0.0400 |
| 20 | 13102620 | 1.5240 | 1219.2 | 2438.4 | 43 | 1485 | 271 | 680 | 52 | 87 | A1303988 | 0.0400 | 0.430 | 1.1300 | 0.0380 | 0.0010 | 8.0300 | 18.230 | 0.0300 |
| 21 | 13102621 | 1.5240 | 1219.2 | 2438.4 | 43 | 1487 | 271 | 680 | 52 | 87 | A1303988 | 0.0400 | 0.430 | 1.1300 | 0.0380 | 0.0010 | 8.0300 | 18.230 | 0.0300 |
| 22 | 13102622 | 1.9050 | 1219.2 | 2438.4 | 40 | 1725 | 268 | 650 | 53 | 84 | A2304006 | 0.0300 | 0.440 | 1.1500 | 0.0380 | 0.0010 | 8.1000 | 18.250 | 0.0400 |
| 23 | 13102623 | 1.9050 | 1219.2 | 2438.4 | 41 | 1755 | 268 | 650 | 53 | 84 | A2304006 | 0.0300 | 0.440 | 1.1500 | 0.0380 | 0.0010 | 8.1000 | 18.250 | 0.0400 |
| 24 | 13102624 | 3.0480 | 1219.2 | 3048 | 17 | 1482 | 280 | 675 | 54 | 84 | A1303883 | 0.0400 | 0.390 | 1.1300 | 0.0350 | 0.0010 | 8.0200 | 18.120 | 0.0400 |
| 25 | 13102625 | 3.0480 | 1219.2 | 3048 | 19 | 1656 | 280 | 675 | 54 | 84 | A1303883 | 0.0400 | 0.390 | 1.1300 | 0.0350 | 0.0010 | 8.0200 | 18.120 | 0.0400 |

技术本部

备注 (Remarks):
1. 尺寸和表面: 合格
Size and Surface: Guaranteed

兹证明所列产品均符合订单和标准的制造要求
WE HEREBY CERTIFY THAT THE MATERIAL HEREIN
HAS BEEN MADE IN ACCORDANCE WITH THE ORDER AND
SPECIFICATION
*此报告仅可完全复制
*The report can only be copied completely

技术本部
TECHNICAL DEPT.

无锡宝昌金属制品有限公司
WUXI BAICHANG METAL PRODUCTS CO., LTD.

THYSSENKRUPP MATERIALS NA

Certificate of Mill Test Results

PO/Rel

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

BL PEC-000000-000

Pg 1/1

PART NO.

Ann: RICK

| | | |
|--|--|--|
| ThyssenKrupp ThyssenKrupp Stainless USA | INSPECTION CERTIFICATE CERTIFICADO DE INSPECCION AMMAN/REPHRUEZERS according to / de acordo com French EN 10204-3.1 | Manufacturer / Fabricante / Hersteller 0000032224 / Page / Página / Seite 1 / 1 |
| 1 ThyssenKrupp Drive, P.O. Box 13000, Calicut, AL 36613-1300 OLBERT METALS SALES LIMITED 988 DEERY ROAD EAST SUITE 305 MISSISSAUGA, ON L5T 2J8 CANADA | Customer/Cliente / Kunde / Vertriebspartner OLBERT METALS SALES LIMITED, MISSISSAUGA Customer's copy / Versand / Für den Endverbraucher / Weiterzugeben: TO-1846 Reference to the order no. / Ref. do Pedido / Referenz / Auftragsnummer: 901147769 / 001 Delivery date on / IP-ko tanggal / Lieferungsdatum: 05/02/2013 / 010 Product / Produto / Produkt / Beschreib: SHEET/PLATE/BLACH Steel grade and quality / Acero / Stahlsorte und Gütegruppe: TYPE 304 L/S04 | |
| Form of delivery / Condición de entrega / Lieferbedingungen ASTM A240/A240M, ASME SA-240/SA-240M Part A Ed.2010 ASTM A304/A304M, ASME SA-304/SA-304M Part A Ed.2010 | Customer's request no. / N.º de Pedido / Kunden-/ Auftragsnummer: 3.05 inch x 1,219,28 mm x 2,438,40 mm 0.1250 inch x 68,0000 inch x 95,0000 inch | |
| Product description / Descripción / Produkt / Lieferart Plate and dimensions / Placa / Lieferart Plate and dimensions / Placa / Lieferart | Product description / Descripción / Produkt / Lieferart 3.05 inch x 1,219,28 mm x 2,438,40 mm 0.1250 inch x 68,0000 inch x 95,0000 inch | Product description / Descripción / Produkt / Lieferart 3.05 inch x 1,219,28 mm x 2,438,40 mm 0.1250 inch x 68,0000 inch x 95,0000 inch |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
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| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 | Weight / Peso / Gewicht 32 32 32 |
| Weight / Peso / Gewicht 32 32 32 | | |